

Initial Requirements Document

Asset Supply Chain Management (ASCM)



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1. BACKGROUND

With 48,000 employees, the Federal Aviation Administration (FAA) is the largest Agency within the Department of Transportation (DOT). It has broad operational and regulatory responsibilities for the safety, security, and efficiency of the entire U.S. aviation transportation as well as the U.S. commercial space operations systems. The FAA has acquired and operates a sophisticated, distributed national command and control system of communications, surveillance sensors, and navigation aids, all interconnected to a network of facilities that provide local, regional, and national air transportation flow management to users of every type. Collectively, it is the largest, busiest, and most complex such system in the world.

The value of the FAA's assets, according to the financial statement dated Sep 30, 1998, was in excess of 11 billion dollars. Managing FAA assets entails supporting 8,000⁽²⁾ asset ordering offices, an estimated 9,000 system users and over 34,000⁽³⁾ sites in the United States alone. Version 3.0 of the National Airspace System (NAS) Architecture projects NAS equipment and systems will increase almost 90% by the year 2015. These projections do not indicate similar increases in the workforce. Therefore, it is critical to employ significantly more capable technology and integrated business processes in asset management.

To accomplish the FAA mission goals ⁽¹⁾, the agency must exercise effective control and provide full life cycle management for a wide variety of assets worldwide. This requires the ability to forecast, acquire, construct, catalog, receive, record, document, utilize, transfer, store, maintain, reutilize, replace, and retire assets and provide asset visibility throughout the asset supply chain across the FAA as a whole. Financial management, cost accounting, and depreciation of capitalized assets must be included to ensure a clean financial statement.

New operational systems now bring with them a greater reliance upon third party maintenance agreements, licensing agreements, contract management, tracking of warranty information, contractor managed parts, and contractor warehousing. Such arrangements can lead to complications in tracking and asset visibility that existing asset systems are not able to manage.

Management of real property assets requires tracking of real property rights that FAA acquires, ranging from fee simple purchases, leases, permits, interagency permits and agreements, withdrawals, and use of GSA space. Tracking and maintaining a realm of utility and support contracts and support agreements for land, space and technical space are also required. Support of FAA's environmental responsibilities related to land use is also required. Responsibilities to support real property management span many lines of business. Current property management systems have not served the support of in-service real property assets well, and have been difficult to maintain.

(1) FAA Strategic Plan, 1998

(2) FAA Administrators Handbook, Dec 96

(3) Office of the Inspector General #R3-FA-7-004 dated Mar 97

Current FAA asset and inventory systems do not have the capabilities and cohesive integration

of processes that the agency requires. Therefore, those legacy systems must be significantly updated or replaced entirely in order for the FAA to perform efficiently. The combination of integrated capabilities required to manage all FAA assets and real property is the objective of this document, and is referred to as Asset Supply Chain Management (ASCM).

The FAA Logistics Center (FAALC) is planning increased capabilities as well, referred to here as the Logistics Center Support System (LCSS). Aimed at performing as a stand-alone solution that will interface with the ASCM solution set, LCSS will also provide the tools and solutions to address the dramatic business challenges presented by the advent of the fee-for-service operational concept at Mike Monroney Aeronautical Center (MMAC).

ASCM and LCSS are both integrated sets of business solutions that, when working in concert through established interfaces, will allow the FAA to accurately account for all of its assets.

1.1 Overview

- 1.1.1** Existing asset and inventory systems and processes were not designed to effectively manage FAA assets in today's business environment. FAA legacy asset and inventory systems have not kept pace with organizational needs and advances in technology, and are incapable of providing required functionality. This impedes the FAA's ability to meet all three 'strategic mission goals' as outlined in the 1998 FAA Strategic Plan, namely:
- 1.1.2 Goal 1 - Safety.** Legacy asset and inventory systems do not have the ability to share and analyze safety-related data. Historical failure related information is simply not captured and retained by existing FAA systems, making failure analysis reporting and planning of corrective safety related measures impossible. ASCM will capture the required failure information, making it available FAA wide for analysis, sharing, reporting and planning.
- 1.1.3 Goal 2 - Security.** Legacy asset and inventory systems either fail to provide critical information, or provide such insufficient information that they impede the agency's ability to identify risks and vulnerabilities. The existing systems thus fail to properly assist the agency in making critical decisions on how to spend finite resources for security measures and enhancements to reduce or avoid misuse, theft or misappropriation of agency assets. ASCM's audit trails and real-time agency wide asset visibility and reporting will decrease agency asset losses and vulnerabilities.
- 1.1.4 Goal 3 - System Efficiency.** Legacy asset and inventory systems were never designed to capture the depth and breadth of information required today by the FAA. These systems often fail to capture critical data, or they provide insufficient or incomplete information to critical business areas. The result is that these systems inhibit efforts to refine and streamline NAS systems and operations. The depth of data ASCM will capture, and the tools ASCM will provide to access that data, will support more effective and efficient control and management of FAA systems and operations.

- 1.1.5** Numerous sources have documented the above issues as identified in the Mission Need Statement (MNS-325). A unified corporate system of policies, procedures, and information resources is required to manage FAA assets and provide timely and much needed critical information regardless of physical location or Line of Business (LOB) affiliation.
- 1.1.6** Historically, the agency's asset management function has been fragmented across many organizations. This fragmentation has resulted in internal and external customer confusion, diffuse and ineffective support, and an inability to keep pace with change. Access to asset management information extends beyond the traditional logistics management functional areas. Such information can, and should, be leveraged to support the related asset management decisions of system architects, Integrated Product Teams (IPTs), maintenance engineers, and others throughout the assets' life cycle.
- 1.1.7** ASCM represents an integrated solution vision aimed at addressing FAA-wide asset management requirements regardless of organization or LOB. ASCM is an essential business repository that integrates asset management with financial management (including cost accounting, capitalization, work-in-process (WIP), and depreciation) and FAA configuration management.
- 1.1.8** The Logistics Center Support System (LCSS) represents a solution vision to identify, acquire, track and maintain inventory data on the FAA's operating materials and supplies at the FAALC.

1.2 Needed Capability

- 1.2.1** The ASCM MNS identifies several systemic shortfalls within the FAA that cannot be resolved with the current non-integrated systems. ASCM will be the system of record for the tracking of equipment and systems in use, Regional and F&E project materiel, in-use personal property, motor vehicles including aircraft, operating material and supplies (OM&S) (both stocks and stores and field spares), government owned property controlled by contractors, excess property, real property (land, buildings, and other structures), contracts, licenses, and maintenance agreements.
- 1.2.2** ASCM will provide a fully integrated set of asset management tools that include the ability to enter and modify asset records; automate data collection; provide perpetual historical tracking of asset sponsorship or ownership and location; track contractor information; maintain baseline as well as current revision or release levels, configuration identification and historical tracking; and provide data in support of FAA configuration management systems.
- 1.2.3** ASCM will record all costs for assets including purchase costs, as well as the costs of revisions, improvements, modifications, or additions.
- 1.2.4** ASCM will record as assets a wide range of real property in order to manage a variety of property that includes FAA owned, FAA leased, GSA owned and occupied by the FAA, GSA leased and occupied by the FAA, and out grants or out lease of real property rights to FAA facilities.

- 1.2.5** ASCM will provide FAA-wide asset visibility, perpetual inventory status (on-hand, availability), support extensive interfaces with FAA program, fiscal, and financial management systems, and support FAA asset depreciation.
- 1.2.6** ASCM will perform inventory needs forecasting based on historical experience factors, and will provide broad reporting capabilities that include standard reports in addition to extensive ad hoc reporting tools.
- 1.2.7** ASCM will meet all applicable federal statutory and regulatory requirements (e.g. Chief Financial Officers (CFO) Act, Federal Managers Financial Integrity Act (FMFIA), Federal Property Management Regulations (FPMR)).
- 1.2.8** ASCM will provide historical traceability for all assets.

Note: Examples include being able to trace all NAS assets to controlled technical documentation, and the ability to tie completed asset modifications back to national change authorization / Change Control Boards (CCB's) or Change Control Directives (CCD's).

- 1.2.9** LCSS will provide a stand-alone system that will interface with ASCM to manage the Inventory and operations at the FAALC.

1.3 Approach to Defining Program Interdependencies

Special emphasis will be placed on the asset recording, tracking, and management dependencies between ASCM and the NAS Infrastructure Management System (NIMS) program. The development of an Interface Requirements Document and close coordination between the ASCM and NIMS program offices will take place in order to prevent duplication in the technical solutions that are selected.

1.4 Purpose

This initial Requirements Document (iRD) translates the needs described in the MNS into high level functional requirements that will be used to perform an investment analysis of potential alternative solutions for the ASCM national program, and the LCSS at the Aeronautical Center. The Market Survey may result in separate Final Requirements Documents (fRD) for ASCM and LCSS.

2. OPERATIONAL CONCEPT

2.1 Operations

- 2.1.1** FAA's asset management functions are currently provided by multiple non-integrated systems. ASCM will provide an efficient, effective, and integrated single system of these same functions, thereby providing seamless support of internal, external, and remote users FAA-wide.
- 2.1.2** ASCM will enable the FAA to more effectively and efficiently manage all assets, and assist in the implementation of agency-wide policies and standards, providing uniform guidelines and procedures for use across the FAA.
- 2.1.3** ASCM will provide a reliable nation-wide single source data repository for real-time asset identification and status inquiry, effective life-cycle cost and performance analysis, budget management, and investment decision support.
- 2.1.4** ASCM will encompass functionality to replace the following systems:

System	Samples of Functionality
LIS (Logistics and Inventory System)	The single inventory and warehouse management system for the FAA at the present time.
RPMMS (Regional Project Materiel Management System)	Tracks all F&E funded project materiel applicable by regional job order number, both nationally and regionally funded. This system works in conjunction with data being pulled from the PMMS system and forwarded to RPMMS through FIRS.
PMMS (Project Materiel Management System)	Tracks facilities and equipment (F&E) nationally funded equipment by national project control number.
PPIMS (Personal Property In-Use Management System)	Records, tracks, manages and controls all in-use personal property inclusive of line item accountable property and all installed facility equipment.
RPR (Real Property Records)	Track/report FAA leased, owned or occupied real property.
FIRS (Field Inventory Replenishment System)	Asset transfers from MMAC to regions for cost accounting and physical property accountability and tracking.
	Creates supply support code directory reports based on sort and compare function of GSA Master Name and Address file from LIS, the Facility reference file in MF and all non-AF

	administrative entries. Feeds this info to PPIMS and RPMMS on a monthly basis.
PMSRS (Project Materiel Shipping and Receiving System)	Manages and controls vendor shipments and provides details for both the contractor and the FAA.
MDFM (Materiel Delivery Forecast Module)	Provides forecasted key equipment delivery date estimates.
CCS (Centralized Cataloging System)	Automatic assignment of stock numbers, central database of all NSN's assigned.
FSI (Field Spares Inventory)	Visibility of only selected spares at various sites
CI (Cycle Inventory)	Physical Inventory
REMS (Real Estate Management System)	REMS is automated system for inventory and management of FAA real property assets and related information. The system records data associated with land, buildings/space, structures, and employee housing. Also, it captures data for services, property improvements, environmental documentation, agreements, lease administration on lessors, rents, vendors, payees, and archives records for future reference.
RETS (Real Estate Tracking System)	Real estate tracking system
LIMS (Lease Information Management System)	Leased property tracking system
FMF (Facility Master File)	System of record for all FAA facilities
BCATS (Bar Coding and Asset Tracking System)	Asset identification/tracking
GFP/CAP (Government Furnished Property / Contractor Acquired Property)	Tracking government property at contractor sites, and property acquired by contractors for the government.

- 2.1.5** ASCM will store far more detailed information than the existing FAA systems. ASCM will assist the FAA in performing more accurate planning, minimizing the number of delays associated with inaccurate or insufficient information. ASCM will reduce the incidence of inaccurate purchases, improving the productivity of specialists in the field, and will also aid in rapid prototyping of process improvements.
- 2.1.6** ASCM will provide more accurate and timely management information, reducing human errors as well as costly data entry time.
- 2.1.7** ASCM will assist the FAA in reducing costs by reducing inventory levels while increasing individual productivity, and will provide real-time access to critical information reducing costly and inefficient paperwork.
- 2.1.8** ASCM will store critical data that current systems do not capture making it possible to achieve FAA strategic mission goals and to resolve issues from critical reviews by the Office of the Inspector General (OIG), Government Accounting Office (GAO) and the

Office of Management and Budget (OMB).

2.1.9 ASCM will provide critical information on assets and detailed cost data supported by operational audit trails significantly aiding in projecting future budgetary needs.

2.1.10 LCSS will encompass functionality to replace the following systems:

System	Samples of Functionality
LIS (Logistics and Inventory System)	The single inventory and warehouse management system for the FAA at the present time.

- 2.1.11** LCSS will store far more detailed information than the existing FAA Logistics Center systems. LCSS will assist the FAA Logistics Center in performing more accurate planning. This will minimize the number of delays associated with inaccurate or insufficient information.
- 2.1.12** LCSS will provide more accurate and timely management information, reducing human errors as well as costly data entry time.
- 2.1.13** LCSS will assist the FAA Logistics Center in reducing costs by reducing inventory levels while increasing individual productivity, and will provide real-time access to critical information reducing costly and inefficient paperwork.
- 2.1.14** LCSS will store critical data that current systems do not capture making it possible to achieve FAA Logistics Center strategic mission goals and to resolve issues from critical reviews by the Office of the Inspector General (OIG), Government Accounting Office (GAO) and the Office of Management and Budget (OMB).

2.2 Maintenance of ASCM

2.2.1 ASCM Maintenance Concept

- 2.2.1.1** The ASCM maintenance concept shall be in accordance with FAA Order 6000.30B, *Policy for Maintenance of the National Airspace System (NAS) Through the Year 2000*, and FAA Order 6000.15B, *General Maintenance Handbook for Airway Facilities*, and shall include the removal and replacement of defective Lowest Replaceable Units (LRU's) at the site level and repair of defective LRU's by government or contractor depot level maintenance. ASCM shall provide an integrated logistics support infrastructure that shall meet the NAS Integrated Logistics Support (NAILS) requirements as defined in FAA Order 1800.58A, *National Airspace Integrated Logistics Support Policy*.

2.2.2 ASCM Hardware Maintenance

- 2.2.2.1** Hardware maintenance shall be based on the use of modular equipment that enables field level personnel to correct equipment failures on-site by replacing failed LRU's. Depot level maintenance consists of the repair of failed LRU's shipped from the site to the government or contractor depot repair facility. The decision to select organic repair, contractor repair, or discard will be determined by the FAA.

2.2.3 ASCM Software Maintenance

- 2.2.3.1** Software maintenance modifications and upgrades proposed by the contractor, beyond those approved by the FAA at software product baseline, shall be approved and tested by the designated FAA operational support organization during the life cycle of the system.

2.2.4 Quantities and Location

- 2.2.4.1** Quantities and locations shall be determined during the ASCM investment analysis.

2.3 Schedule Constraints

- 2.3.1** None known.

3. TECHNICAL PERFORMANCE

3.1 ASCM Operational and Functional Requirements

3.1.1 User Interface

3.1.1.1 ASCM shall provide the tools for ease of use and simplicity of user interaction.

Note: Examples would be to minimize numbers of screens, menus, simplifying data input, eliminate repeated input of data, etc.

3.1.1.2 ASCM shall be accessible to users 24 hours a day, 7 days a week, 365 days a year.

3.1.1.3 ASCM shall provide functionality to enter and modify asset records; perform automated data collection; facilitate perpetual historical tracking of asset sponsorship or ownership and location; maintain extensive contractor information; maintain baselines and current revision or release levels on all assets; support configuration identification and historical tracking; and have the ability to provide data support to FAA configuration management systems.

3.1.2 Data Input Validation

3.1.2.1 ASCM shall provide the tools to validate entered data against system tabled data prior to database updates.

3.1.3 Year 2000 Compliant

3.1.3.1 ASCM shall be in compliance with Year 2000 (Y2K) Repair Process and Standards Handbook, Version 2 (Green Book).

3.1.4 Standardized Asset Identification

3.1.4.1 ASCM shall establish a means of standard identification for all FAA assets which will replace the current FAA identification standards for assets and real property.

Note: One example is NSN as currently used within the FAA does not account for revision levels. ASCM would retain and store NSN as an attribute of each asset, and would use a unique and more flexible primary identification scheme.

3.1.5 Auditable Transactions

3.1.5.1 ASCM shall maintain a history log (audit trails) that will reflect all transactions (acquired, sold, transferred, loaned, leased, borrowed, donated, utilized, exchanged, repaired, reutilized) on an asset during its entire life cycle, providing details such as the user who performed the transaction, and the date and time.

3.1.6 Real Property

3.1.6.1 ASCM shall address land, buildings, and other structures, both owned and leased.

Note: This will include asset/facility management data including baseline ownership and initial cost documentation, modifications approved and implemented with appropriate costs, and the ability to provide access to available detailed electronic format floor plans or schematics.

3.1.7 Personal Property

- 3.1.7.1 ASCM shall record personal property, both installed and itemized.
- 3.1.7.2 ASCM shall record specific data fields on asset records, including physical location, custodian(s), and current asset status.
- 3.1.7.3 ASCM shall provide electronic means and references to signed documents denoting authorized transfers/receipts, exchange and repair activity, excess transactions with capability to electronically transfer forms or transactions to any user of the system.
- 3.1.7.4 ASCM shall provide the tools to link facility accountable property to an account and facility, locator data, and space/floor plan where the property resides.

3.1.8 Motor Vehicles and Aircraft

- 3.1.8.1 ASCM shall provide the tools for the entry of owned and leased vehicles, including motor vehicles, special purpose motorized equipment (SPME), and aircraft as assets.
 - 3.1.8.1.1 ASCM shall record additional vehicle related data fields including data concerning accidents, special fuel categories, license or tag number, tail number, and equipment.
- 3.1.8.2 ASCM shall include the ability to permanently assign or to dispatch vehicles on a short-term basis, capturing information fields (e.g. mileage and percentage of use) required in order to satisfy General Services Administration (GSA) fleet reporting requirements.

3.1.9 Field Spares

- 3.1.9.1 ASCM shall provide the tools to track the transfer of inventory spare parts from primary inventory control points (ICP's), while maintaining both the visibility and availability of those parts.
- 3.1.9.2 ASCM shall provide the tools to advise appropriate financial ledgers when assets are transferred within the agency and change ownership from one facility to another.

3.1.10 Government Furnished Equipment (GFE) / Government Furnished Property (GFP) / Contractor Acquired Property (CAP) / Loaned Property

- 3.1.10.1 ASCM shall provide the tools for assets to be identified as government furnished or loaned equipment or property.

Note: This includes property loaned or furnished to contractors, other U.S. agencies, and other countries.

- 3.1.10.2 ASCM shall record extended data fields such as estimated return dates and references to signed documents authorizing transfers.

3.1.11 Hardware and Software Assets

- 3.1.11.1 ASCM shall provide a database and tools to store information on custom, commercial-off-the-shelf (COTS), or non-developmental items (NDI) installed software as assets.
- 3.1.11.2 ASCM shall record support and maintenance agreements for assets, including renewal options.

3.1.12 Test and Calibration Equipment

3.1.12.1 ASCM shall provide the tools to track the location and assignment of all FAA owned and leased test and calibration assets.

3.1.12.2 ASCM shall record all maintenance, calibration, and modification data for the life of these test and calibration assets.

3.1.13 Total Asset Visibility (TAV)

3.1.13.1 ASCM shall provide real-time visibility of all FAA assets regardless of location or status.

Note: This is intended to include assets at operating sites, government and commercial depots, supplier reserved inventory, other governmental locations or agencies, spares in the field and in-shipment to or from the field, and disposal sites.

3.1.13.2 ASCM shall interface with the Operations Control Center (OCC).

Note: An Interface Requirements Document (IRD) and an Interface Control Document (ICD) will be developed at a future date.

3.1.13.3 ASCM will interface with the FAA maintenance monitoring system and will provide both real-time and non-real-time information needed for performance monitoring, system status, and configuration management.

Note: An Interface Requirements Document (IRD) and an Interface Control Document (ICD) will be developed at a future date.

3.1.14 Warehousing/Storage Management

3.1.14.1 ASCM shall provide inventory management reporting.

Note: Reporting intended to aid in taking physical inventory, processes to control and direct shipments, picking and packing functions, and restocking orders.

3.1.14.2 ASCM shall provide the tools to interface with planned computer controlled materiel handling equipment.

3.1.14.3 ASCM shall provide the tools for the automatic initiation and tracking of shipping and receiving activities.

3.1.15 Demand Planning

3.1.15.1 ASCM shall use historical data to forecast demand and measure forecast accuracy over time in order to achieve greater accuracy in the inventory forecasting model.

3.1.16 Component and Supplier Management

3.1.16.1 ASCM shall provide the tools for tracking component parts and part suppliers.

3.1.16.2 ASCM shall provide the tools for an on-line purchasing process.

3.1.17 Maintenance Agreements

3.1.17.1 ASCM shall record asset maintenance agreement data.

3.1.18 Contract Management

3.1.18.1 ASCM shall record asset supplier contract data.

3.1.19 Contractor Warranty Management

3.1.19.1 ASCM shall record all asset warranty data.

3.1.20 Licensing Management

3.1.20.1 ASCM shall record licensing agreement data for all software and all operating systems.

3.1.21 Item Management

3.1.21.1 ASCM shall provide the tools for inventory cataloging, managing contractor depot logistics services (CDLS) and contractor maintenance logistics services (CMLS), central item identification, order entry, and provisioning support.

3.1.22 Historical Failure Tracking

3.1.22.1 ASCM shall record all asset failure related information and make such information available for failure analysis reporting.

Note: This failure data will be stored as part of the asset data record for the entire life of the asset, and in a permanent repository for failure analysis reporting.

3.1.23 F&E Engineering Plans

3.1.23.1 ASCM shall provide the tools to attach detailed engineering drawings to any asset record.

3.1.23.2 ASCM shall provide the tools to display detailed engineering drawings to authorized users.

3.1.24 Technical Documentation

3.1.24.1 ASCM shall provide the tools to attach technical documentation files to any asset record, and shall provide the ability to display such documentation to users supporting a variety of formats (e.g., Portable Document Format (pdf), Microsoft Word (doc), Hypertext Markup Language (html)).

3.1.25 Work-In-Process and Project Materiel

3.1.25.1 ASCM shall provide the tools for the recording as assets, items identified as project materiel, until such time as the assets transfer and become in-use personal property, real property, or spares.

3.1.25.2 ASCM shall provide the tools for the management of project material.

3.1.26 Engineering Database and Bill-of-Materials

3.1.26.1 ASCM shall provide the tools for the storing and displaying an engineering database and a bill-of-materials (BOM). (Other examples are wiring schematics, drawings, etc.)

3.1.26.2 ASCM reporting shall provide for full and complete asset association and relationship tracking to explain the relationship of components or LRU's to the associated complete system.

3.1.27 Excess Property

3.1.27.1 ASCM shall provide the tools to track assets sold, transferred, loaned, leased, borrowed, donated, destroyed, scrapped, or otherwise disposed of.

Note: The assumption is that all assets will remain online for at least a year after they are retired or disposed of, at which point the associated history would move to archive.

3.1.28 Hazardous Material

3.1.28.1 ASCM shall provide the tools to flag assets for special considerations concerning handling, shipping, warning label requirements, site cleanup, and asset disposal.

3.1.29 Quality Management

3.1.29.1 ASCM shall provide the tools to identify assets that have potential quality issues.

3.1.30 Historical and Heritage Property

3.1.30.1 ASCM shall provide the tools for special category tracking of heritage or historic items, regardless of type of asset.

3.1.31 Cycle Inventory and Reconciliation

3.1.31.1 ASCM shall provide the tools for the specific reporting and accounting processes to assist in verifying computer records against actual inventory stock levels.

3.1.32 Cataloging Research and Program Support

3.1.32.1 ASCM shall provide the tools for users to do on-line screening of items, displaying description, prices, and sources for all materiel and equipment.

3.1.33 Traceability of all Revision/Release Details

3.1.33.1 ASCM shall provide the tools to check the version of a part being ordered.

Note: The purpose is to help ensure correct and current revision or level of parts are ordered and stocked.

3.1.33.2 ASCM shall provide for identification or flagging of assets as ‘critical’ parts.

3.1.33.3 In the case of ‘critical’ parts, ASCM shall provide the tools to enforce the use of approved or licensed suppliers for restocking orders.

3.1.34 FEDSTRIP/MILSTRIP Requisitioning

3.1.34.1 ASCM shall provide the tools to process and record requisitions, receipts, status inquiries, returns, and special project requirements for both FAA procured or jointly procured systems between the FAA and the General Services Administration (GSA), Defense Logistics Agency (DLA) or Department of Defense (DoD) and other civilian agencies, providing appropriate input to financial systems as and when required.

3.1.35 Materiel Requirements Planning (MRP)

- 3.1.35.1 ASCM shall provide the tools to forecast material requirements.
- 3.1.35.2 ASCM shall generate replenishment and repair actions, perform demand updates and inventory demand reports, and compute MRP budget requirements.
- 3.1.35.3 ASCM shall provide the tools for formulating inventory optimization strategies to manage logistics support asset distribution and stocking levels.

3.1.36 Electronic Data Interchange (EDI)

- 3.1.36.1 ASCM shall use ANSI X12 Electronic Data Interchange (EDI) as the first choice for exchanging data with systems external to the FAA.

3.1.37 Electronic Commerce (EC)

- 3.1.37.1 ASCM shall use Electronic Commerce (see ANSI X12 EDI), enabling electronic financial transactions with contractors, financial institutions and suppliers, including billing, payments, credits, electronic mail notices, and electronic funds transfers.

3.1.38 International Support

- 3.1.38.1 ASCM shall provide the tools to utilize overseas addresses, track overseas shipments, use long distance and overseas dialing codes, and be capable of international faxing.

3.1.39 Seamless Requisitioning

- 3.1.39.1 ASCM shall provide the tools to generate automatic replacement orders in response to actions taken.

Note: This automatic restocking shall be transparent to the end user.

3.1.40 Automated Data Collection

- 3.1.40.1 ASCM shall provide the tools to use both automatic data collection tools that meet Uniform Code Council (UCC) standards, and point and click selections on selected assets.

Note: This capability will assist the field in reducing error prone and time consuming keying of repetitive data, providing a quick, efficient, and cost effective way to collect and distribute data.

3.1.41 Shipping and Receiving

- 3.1.41.1 ASCM shall provide the tools to optimize freight handling by offering shipping mode selections, allowing personnel to plan shipments and select specific carriers and schedules.

3.1.42 Track En Route Movements of Items

- 3.1.42.1 ASCM shall provide visibility of assets in-shipment or en route.

Note: Example would be assets being shipped from an Inventory Control Point (ICP) to a Regional Office, in shipment between regions, or in shipment from a vendor to a final destination, also referred to as In Transit Visibility (ITV).

3.1.43 FAA World Wide Access

3.1.43.1 ASCM, as an essential service, shall be accessible on-demand by authorized staff throughout the FAA from all FAA facilities via leased line, dial-up, or other means.

3.1.44 Report Generation

3.1.44.1 ASCM shall provide the tools to generate standard and ad hoc reports, and to publish them to a web server in HTML format.

3.1.45 Document Generation

3.1.45.1 ASCM shall provide the tools to generate forms.

Note: The term “generate” refers to the production of a finished document format such as an invoice or financial statement. The generation of documents is meant to include the formats of printed documents, fax, email, PDF and HTML.

3.1.46 Legacy Data Conversion

3.1.46.1 ASCM shall provide the tools to accept legacy historical data on assets and load that data into data typed columns in the ASCM database.

3.1.47 Asset Identification Hierarchy

3.1.47.1 ASCM shall provide the tools to store unlimited asset associations and relationships in order to explain the relationship of components or LRU's to completed systems.

Note: It is the intent to have these relationships indexed within the system on a real-time basis, available at all times for use. Using these indexed relationships, it will be possible to begin at the completed system level and identify any and all components of that system quickly and efficiently.

3.1.48 Asset Utilization, Screening and Disposition

3.1.48.1 ASCM shall retain asset information to comply with FAA records management requirements.

3.1.48.2 ASCM shall provide the tools for transferring asset information to GSA and Federal Supply Service to make assets visible and available for screening by other government agencies.

3.1.49 Asset Capitalization and Depreciation

3.1.49.1 ASCM shall record data fields for asset records required in order to satisfy the needs of the FAA capitalization and depreciation processes.

3.1.50 Archive Capability

3.1.50.1 ASCM shall provide the tools to archive asset records.

3.1.50.2 ASCM shall provide the tools to retrieve ASCM archived data for reporting and research purposes via indexed archiving methodologies.

3.2 Product Characteristics and Performance Requirements

3.2.1 Availability

3.2.1.1 ASCM will be an essential service and shall provide an availability of 0.999 as defined in FAA NAS-SR-1000, NAS System Requirements Specification, Section-01 through Section-14, Section 3.8.1.A and FAA-NAS-SR-1000, NAS System Specification, Volume VI, Facility Requirements for the National Airspace System, 1992, Section 3.2.1.5.4.

Note: Availability includes power, Heating, Ventilation, and Air Conditioning (HVAC), and telecommunications supporting the ASCM system(s).

Note: Essential ASCM provides services to NIMS that are required to sustain NAS critical systems/equipment.

3.2.2 Reliability and Maintainability

3.2.2.1 ASCM shall have a Mean Time Between Critical Failures (MTBCF) of 2,500 hours in accordance with NAS-SR-1000.

3.2.2.2 ASCM shall have a Mean Total Time To Repair (MTTR) of 30 minutes.

Note: The MTTR includes the total time required for fault isolation, item replacement and retest.

3.2.2.3 ASCM shall return to service from a failure without human intervention.

3.2.2.4 ASCM shall return to service in less than 10 minutes after an initial program load (IPL).

3.2.3 Maintenance

3.2.3.1 ASCM shall not require preventive maintenance on any ASCM subsystem more than once every three months.

3.2.3.2 ASCM shall allow for preventive maintenance without impacting operational capability.

3.2.3.3 Removal and replacement of ASCM LRUs shall not impact operational capability.

3.2.3.4 Removal and replacement of ASCM LRUs shall not require either unique tools or test equipment.

3.2.4 Scalability

3.2.4.1 ASCM software shall be able to support 9000 users (4000 concurrent) without degradation in performance or system response times. Estimated read/write/update transaction volumes are 3,000,000 daily during a 12-hour working day period.

Note: 3,000,000 transactions is used only as a rough order of magnitude (ROM).

3.2.4.2 ASCM shall provide the tools to process 4,500,000 daily transactions (during the 12 hour work day period outlined in 3.2.2.1) without significant (no more than 10%) degradations in system performance and response times, and without re-work or modifications to software or hardware.

3.2.5 Enhanceability

3.2.5.1 ASCM shall permit enhancements without requiring any changes to other FAA systems.

3.2.5.2 ASCM shall use standard development tools and methods in order to facilitate future extensions and enhancements without the need for major and expensive modifications or re-work.

3.2.6 On-Line, Real-Time System

3.2.6.1 ASCM shall be an on-line service, providing real-time information.

3.2.7 Internet/Intranet Capable

3.2.7.1 ASCM shall provide the tools for Internet and Intranet connectivity and use.

Note: This would include, but not be limited to, making applications available via browser technology and publishing reports in HTML format.

3.2.8 Workflow Enhancements

3.2.8.1 ASCM shall incorporate or interface with productivity enhancements such as workflow optimization software.

3.2.9 Management Information

3.2.9.1 ASCM shall provide management information reporting.

3.3 Other Critical Performance Parameters

3.3.1 Interfaces

3.3.1.1 ASCM shall interface with the following FAA and non-FAA systems and databases:

<i>System</i>	<i>Organization</i>
GFP/GFE/CAP DATABASE	ASU
FSEP/PFF/FMF (FAA Facility Databases)	AOS
DAFIS/DELPHI (DOT Accounting Systems)	DOT
ACQUIRE (FAA Automated Procurement)	ASU
DOCCON (Documentation and Configuration System Program Control)	ASD
GIDEP(Government/Industry Data Exchange Program)	ASU
MMS (Maintenance Management System)	AOP
CAS (Cost Accounting Standards)	AFM
EMERS (Emergency Management Reporting System)	ANS
NAILSMIS (National Airspace Integrated Logistics Support Management Information System)	AFZ
SLIC2B (Systems and Logistics Integration Capability – 2B Database)	FAALC
CIMS & CPMP (Corporate Information Management System)	AAF60
FRAN (Franchise System)	FAALC
RTP (Resource Tracking Program)	ANS
ASIS (Aviation Standards Information System)	AVN
CAEG (Computer Aided Engineering Graphics)	ANS
FAALC ACQUIRE (Modified)	FAALC
DLIS (Defense Logistics Information System)	DLA
NIMS (NAS Infrastructure Management System)	AOP
LCSS	FAALC

3.3.1.2 LCSS shall interface with the following FAA and non-FAA systems and databases:

<i>System</i>	<i>Organization</i>
DAFIS/DELPHI (DOT Accounting Systems)	DOT
ACQUIRE (FAA Automated Procurement)	ASU
CAS (Cost Accounting Standards)	AFM
SLIC2B (Systems and Logistics Integration Capability – 2B Database)	FAALC
DLIS (Defense Logistics Information System)	DLA
FAALC ACQUIRE (Modified)	FAALC
ASCM	AFZ
NIMS	AOP

3.4 LCSS Operational and Functional Requirements

3.4.1 User Interface

3.4.1.1 LCSS shall provide the tools for ease of use and simplicity of user interaction.

Note: Examples would be to minimize numbers of screens, menus, simplifying data input, eliminate repeated input of data, etc.

3.4.1.2 LCSS shall provide the tools to enter and modify asset records, perform automated data collection, facilitate perpetual historical tracking of asset sponsorship or ownership and location, maintain extensive contractor information, baseline as well as current revision or release levels on all assets, support configuration identification and historical tracking, and have the ability to provide data support to FAA ASCM system.

3.4.2 Data Input Validation

3.4.2.1 LCSS shall provide the tools to validate entered data against system tabled data prior to database updates.

3.4.3 Year 2000 Compliant

3.4.3.1 LCSS shall be in compliance with Year 2000 (Y2K) Repair Process and Standards Handbook, Version 2 (Green Book).

3.4.4 Standardized Asset Identification

3.4.4.1 LCSS shall follow the standard established by ASCM for a means of standard identification for all FAA assets which will replace the current FAA identification standards for assets and real property.

Note: One example is NSN as currently used within the FAA does not account for revision levels. ASCM would retain and store NSN as an attribute of each asset, and would use a unique and more flexible primary identification scheme.

3.4.5 Auditable Transactions

3.4.5.1 LCSS shall maintain a history log of all transactions (audit trails) that will reflect all transactions (acquired, sold, transferred, loaned, leased, borrowed, donated, utilized, exchanged, repaired, reutilized) on an FAA asset during its entire life cycle, providing details such as the user who performed the transaction, and the date and time.

3.4.6 Automated Procurement

3.4.6.1 LCSS shall provide the tools for the preparation and tracking of procurement activities based on automated or manual inputs from the FAALC for processing by the Office of Acquisition (AMQ) ACQUIRE program.

3.4.7 Centralized Wholesale Cataloging/Item Identification

3.4.7.1 LCSS shall provide a catalog of products and services available from the FAALC for resale.

3.4.8 Contractor Depot Logistics Support and Contractor Maintenance and Logistics Support (CDLS and CMLS)

3.4.8.1 LCSS shall provide the tools for the management of CDLS and CMLS contracts.

3.4.8.2 LCSS shall provide the tools to collect historical contractor performance data.

3.4.9 Maintenance Engineering Database

3.4.9.1 LCSS shall provide a depot level repair and maintenance engineering database.

Note: The engineering database will include repair history, modification levels, parts obsolescence by LRU, serial number and component.

3.4.10 Electronic Commerce

3.4.10.1 LCSS shall provide electronic commerce transactions specific to FAALC operations.

Note: Examples of transactions will include buying, selling, contract management, distribution, etc.

3.4.11 FAALC Customer Care Center

3.4.11.1 LCSS shall provide the tools for help desk operations at the FAALC.

Note: Examples of help desk operations are customer transaction tracking and reporting, and assistance in LRU fault resolution.

3.4.12 FEDSTRIP / MILSTRIP / IMM

3.4.12.1 LCSS shall provide the tools to manage wholesale and retail operations consistent with Primary Inventory Control Activity (PICA) and Secondary Inventory Control Activity (SICA) responsibility under Integrated Material Management (IMM) agreements with DoD, civil agency and international customers.

3.4.13 Cost and Performance Management of FAALC Operations

3.4.13.1 LCSS shall provide a cost and performance management tool.

Note: Examples of decision support tools include data warehouse to utilize relational on-line analytical processing (ROLAP) and multi-dimensional on-line analytical processing (MOLAP).

3.4.14 International Shipping and Receiving

3.4.14.1 LCSS shall provide the tools for the handling of international shipments and receipts by the FAALC.

Note: Handling include tariffs, taxes, waivers, export documents, etc.

3.4.15 International Logistics Support Processing

- 3.4.15.1 LCSS shall provide the tools for the processing of international logistic support requests through to fulfillment.

Note: International logistics support processing includes billing, currency exchange and distribution of information to international customers.

3.4.16 Inventory Processing and Control

- 3.4.16.1 LCSS shall provide the tools for inventory processing and control within the FAALC.

Note: Examples of inventory processing and control include forecasting, shipping, receiving, inventory transaction tracking, and inventory optimization modeling.

3.4.17 Material Requirements Planning (MRP)

- 3.4.17.1 LCSS shall provide MRP tools capable of utilizing multiple forecast models.

3.4.18 Order Entry

- 3.4.18.1 LCSS shall provide an order entry system for accepting orders from other data processing systems and/or direct customer inputs.

Note: FAA customer orders will come through ASCM to LCSS interface only. Customer communication channels for non-FAA customers include Internet, dial-up, LAN, etc.

3.4.19 Production Control

- 3.4.19.1 LCSS shall provide a production control system for FAALC repair operations.

Note: Examples include the ability to forecast, direct and track movement and costs of repairable assets into and out of the FAALC repair operation, etc.

3.4.20 Provisioning Support for Depot Level Inventory

- 3.4.20.1 LCSS shall provide a spares planning model.
- 3.4.20.2 LCSS shall provide the tools to develop provisioning recommendations and record provisioning decisions.

Note: This planning model will require access to the ASCM failure history for field spares.

3.4.21 Quality Assurance and Tracking for FAALC Operations

- 3.4.21.1 LCSS shall provide statistical analysis tools and a tracking system that complies with the quality assurance requirements of ISO-9002.

3.4.22 Maintenance Repair Operation (MRO) Information Management

- 3.4.22.1 LCSS shall provide the tools to integrate, present and update information for the maintenance and repair operations of the FAALC.

3.4.23 Technical Data Package Management System

3.4.23.1 LCSS shall provide the tools to collect engineering information/documentation used in the preparation of Technical Data Packages (TDP).

Note: Examples of TDP include specifications, drawings, bill-of-materials, etc.

3.4.24 Inventory Processing Analysis and Control

3.4.24.1 LCSS shall provide the tools for inventory processing, analysis and control.

3.4.25 Wholesale Shipping and Receiving Automation

3.4.25.1 LCSS shall provide automated shipping and receiving processes.

3.4.26 Storage Management System

3.4.26.1 LCSS shall provide a storage management system to direct movement of material in, through and out of the FAALC distribution facility.

3.5 LCSS Product Characteristics and Performance Requirements

Note: LCSS characteristics and performance requirements with the exception of scalability shall be identical to those of ASCM as reflected in section 3.2 of this document.

3.5.1 Scalability

3.5.1.1 LCSS shall simultaneously process on-line user operations without processing delays for 400 users at the minimum rate of 120 transactions per second.

4. PHYSICAL INTEGRATION

Physical integration for ASCM and LCSS is expected to be minimal. ASCM and LCSS are envisioned as a system based solution, housed and supported by existing FAA physical resources. Physical integration will be performed within performance guidelines established by the FAA and the manufacturer.

4.1 Real Estate

Not applicable.

Rationale: Any ASCM and LCSS solution will consist of a minimum amount of hardware and software, and some added communication capability. Existing FAA facilities will be sufficient to house and support ASCM.

4.2 Space

Detailed space requirements for ASCM and LCSS shall be identified in the final Requirements Document (fRD) for the selected solutions.

4.2.1 Site Survey

A site survey shall be performed at any facility to receive ASCM and LCSS.

Note: The site survey will ensure compliance with existing building and environmental codes (power, heat and air), plan the implementation approach, and identify unique facility characteristics.

4.2.1.1 The space selected shall not encroach upon existing activities, or violate other regulations governing the use of the proposed space at each facility.

4.2.1.2 The facility space shall have utilities such as power, illumination, heating, ventilation and air conditioning, cooling, and grounding capacity, to meet the needs of the solution selected.

4.3 Environment

4.3.1 Environmental Compliance

4.3.1.1 The system installation and implementation shall be accomplished within the framework of National Environmental Policy Act (NEPA) and FAA Order 1050.1D, *Policies and Procedures for Considering Environmental Impacts*.

4.3.1.2 FAA owned facilities design and construction shall comply with national and local building codes, Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) standards.

4.3.1.3 Non-FAA owned facilities shall comply with national, state and local building codes, EPA, and OSHA standards.

- 4.3.1.4 Non-Developmental Item / Commercial Off-the-Shelf (NDI/COTS) systems shall comply with EPA and national industry standards for the design, production, and operation of the current technology being deployed.

4.4 Energy Conservation

4.4.1 Energy Conservation Compliance

- 4.4.1.1 ASCM and LCSS shall comply with the National Energy Conservation Policy Act and Executive Order 12902, *Energy Efficiency And Water Conservation At Federal Facilities*.

4.5 Heating, Ventilation and Air Conditioning (HVAC)

- 4.5.1.1 ASCM and LCSS shall be capable of being cooled by existing under floor ventilation and environmental cooling.
- 4.5.1.2 ASCM and LCSS heat generation parameters (cooling requirements) will be obtained and documented in facility interface requirements documents (iRD's).

4.6 Grounding, Bonding, Shielding and Lightning Protection

- 4.6.1 ASCM and LCSS grounding, bonding, shielding, and lightning protection shall be in compliance with the IEEE/American National Standards Institute (ANSI) Standards 142-1991, *IEEE Recommended Practices for Grounding of Industrial and Commercial Power Systems*, and 1100-1992, *IEEE Recommended Practice for Powering and Grounding Sensitive Electronic Equipment*, as well as FAA Standards FAA-G-2100F, 019b and 020b, *Electrical Equipment, General Requirements*.

4.7 Cables

- 4.7.1 ASCM and LCSS shall meet the requirements of FAA-C-1217F, *Electronic Works, Interior* and FAA Order 6650.9, *Regulations for Area Control Facilities (ACF), Under The Floor Cabling*.

4.8 Hazardous Materials

4.8.1 Functional Hazard Assessment (FHA)

- 4.8.1.1 Depending on the solution selected, a functional hazard assessment shall be conducted. Specific requirements for the assessment will be defined in the fRD for the solution selected.
- 4.8.1.2 ASCM and LCSS shall minimize the use of hazardous materials.

4.9 Power Systems and Commercial Power

- 4.9.1 ASCM and LCSS shall meet the power requirements of FAA-G-2100F, *Electronic Equipment, General Requirements*, Appendix I, Applicability to Procurements for NDI/COTS equipment and the National Fire Prevention Association (NFPA) 70. Power Systems and Commercial Power requirements will be specified in the fRD.

4.10 Telecommunications

ASCM and LCSS shall utilize existing telecommunications services in accordance with FAA Order 1830.6B, *Telecommunications Asset Management*, and will coordinate with the Telecommunications Integrated Product Team (TIPT) to ensure communication needs are fully documented.

Note: This iRD assumes that 'existing' FAA telecommunication infrastructure will be sufficient to provide service within the ranges and performance requirements outlined in section 3.2. Further exploration of this issue will be performed as part of the Investment Analysis and preparation of the fRD.

5. FUNCTIONAL INTEGRATION

5.1 Integration With Other NAS (and Non-NAS) Elements

5.1.1 NAS Compatibility

5.1.1.1 ASCM and LCSS shall be fully compatible with all aspects of the NAS and will not interfere with or cause degradation to the NAS systems.

5.2 Software Integration

5.2.1 ASCM and LCSS software integration requirements will be specified in the fRD for the solution selected.

5.3 Spectrum Management

5.3.1 Commercial off-the-shelf equipment which uses radio techniques to aid in the ASCM and LCSS process shall be reviewed by the Office of Spectrum Policy and Management, ASR-1 prior to purchase. This includes equipment often called 'Part 15 device' or 'low power RF device' which can potentially interfere with sensitive aeronautical communications, navigation, and surveillance systems.

5.4 Standardization

5.4.1 ASCM and LCSS shall provide the tools to exchange information using the industry standard protocol as outlined in ANSI X12 (EDI) standards for electronic data interchange and electronic commerce.

5.4.2 ASCM and LCSS shall provide the tools to perform automated data entry using industry standard protocols as outlined in UCC standards for bar code implementation.

6. HUMAN INTEGRATION

6.1 Human Product Interface

6.1.1 ASCM and LCSS human and product interface requirements will be specified in the fRD for the solution selected.

6.2 Employee Safety and Health

- 6.2.1** ASCM and LCSS shall comply with applicable laws and regulations dealing with employee safety and health as defined in FAA Order 3900.19A, *Occupational Safety and Health*.

6.3 Specialized Skills and Capabilities

Not applicable. ASCM and LCSS shall not require specialized skills or capabilities.

7. SECURITY

The ASCM and LCSS solution(s) selected shall determine the level of security procedures after risk assessment.

Note: This process is not limited to security analysis. This process determines the criticality of the FAA asset, then identifies and quantifies threats and vulnerabilities. Probability of loss is assessed to identify assets needing upgrade (security, power, telco, other). Measures and costs required to change unacceptable risks to an acceptable level are determined.

7.1 Physical Security

Physical security at FAA facilities shall be evaluated, given the addition of new system(s) or tools at that facility.

- 7.1.1** Physical security standards as listed in FAA Order 1600.69, *Physical Security Management Program*, or its successor orders, shall be complied with throughout implementation and end state operations.

- 7.1.2** At no time shall any activity be performed which degrades the existing security infrastructure.

7.2 Information Security

ASCM and LCSS shall comply with the storage, processing, and transfer of information in compliance with FAA Order 1600.54, *FAA Automated Information System Handbook* and FAA Order 1600.2, *Safeguarding Controls and Procedures for Classified National Security Information and Sensitive Unclassified Information*, or their successor orders, and OMB Circular A-130, *Management of Federal Information Resources*.

- 7.2.1** Information shall be protected against threats identified in FAA Order 1600.66, *Telecommunication and Information Systems Security Policy*, Appendix 2, *Threats to Information*.

- 7.2.2** Specific requirements shall be specified in the fRD for the solution selected.

7.3 Personnel Security

Not Applicable.

Rationale: The existing FAA personnel security procedures will be followed.

8. IN-SERVICE SUPPORT

ASCM and LCSS in-service support requirements will be specified in the fRD for the solution selected.

9. TEST and EVALUATION (T&E)

9.1 Critical Operational Issues

Not applicable.

Rationale: ASCM and LCSS will not be a candidate for Independent Operational Test and Evaluation.

9.2 Test and Evaluation Requirements

The T&E of ASCM and LCSS will include two major elements: System and Field Familiarizations.

9.2.1 System Test Requirements

ASCM and LCSS shall successfully complete a System Test program conducted under the direction of the Integrated Product Team (IPT) responsible for it's procurement and delivery to Air Traffic Services. System Test includes: Developmental Testing (DT) and Operational Testing (OT).

9.2.2 Field Familiarization Test Requirements

Field familiarization shall be conducted by AF field personnel and regional logistics personnel. Field familiarization is performed after System Test has been completed. The primary objective is to verify that the site is ready to transition to the new system.

10. IMPLEMENTATION and TRANSITION

10.1 Solution Implementation and Transition

As ASCM and LCSS progresses to implementation and transition in a specific environment, the impacts on the users shall be assessed and, as appropriate, solutions to impacts will be planned.

10.1.1 Implementation Documentation

The ASCM and LCSS implementation and transition documentation shall be defined in the fRD for the solution selected.

11. QUALITY ASSURANCE (QA)

11.1 Quality Assurance Program

- 11.1.1** The ASCM and LCSS Quality Assurance (QA) program shall be implemented in accordance with the FAA Quality and Reliability Officer (QRO) Guidebook for assuring compliance with all contractual requirements.

12. CONFIGURATION MANAGEMENT

- 12.1** The FAA IPT (or FAA Acquiring organization) and the contractor shall be jointly responsible for developing and providing a configuration management (CM) program for ASCM and LCSS that will enable life cycle system supportability and maintainability.
- 12.2** The ASCM and LCSS configuration management program shall be in accordance with applicable agency policy, process and procedures.
- 12.3** ASCM and LCSS shall ensure adherence to the following tenets of CM: Planning and Management, Configuration Identification, Change Management, Configuration Status Accounting, Configuration Verification Audits, and Data Management.

Appendix A Thresholds and Objectives

Section #	Requirement	Threshold	Objective

Appendix B Mission Need Correlation Matrix

Need Statement MNS Location	iRD Section Number
The lack of a standard approach, methodology, and data systems to track and manage NAS logistics assets is adversely impacting the FAA's ability to provide efficient and effective service. (Section 2.0)	1.1 / 1.1.1 / 1.1.4 / 1.1.7 / 2.1.1 / 2.1.2 / 2.1.3 / 2.1.5 / 3.1.47 / 3.1.48
The FAA mission area directly impacted by the lack of an asset supply chain management capability is in the area of business practices/productivity in providing effective, economical and efficient logistics support for all FAA assets... (Section 2.0)	1 / 1.1 / 1.1.1 / 1.1.2 / 1.1.3 / 1.1.4 / 1.1.5 / 1.2.1 / 2.1.1 / 2.1.2 / 2.1.3 / 2.1.5 / 2.1.6 / 2.1.8 / 3.1.4 / 3.1.13 / 3.1.22 / 3.1.23 / 3.1.24 / 3.1.25 / 3.1.36 / 3.1.37 / 3.1.39 / 3.1.40 / 3.1.41 / 3.1.43 / 3.1.47 / 3.1.48 / 3.2.4 / 3.2.5 / 3.2.6 / 3.3.1
With ASCM capability, the reconciliation rate of assets could be effectively maintained at industry standards of 95 %, thereby increasing asset visibility while reducing the total inventory needed to meet service demand. (Section 2.1, paragraph 2)	1 / 1.1.1 / 1.1.4 / 1.2.2 / 1.2.5 / 2.1.5 / 2.1.6 / 2.1.8 / 3.1.4 / 3.1.5 / 3.1.9 / 3.1.13 / 3.1.31 / 3.1.39 / 3.1.40 / 3.1.42 / 3.1.47
...the FAA must maintain all equipment used in air traffic control tasks to a high level of operational readiness. Sound logistics asset tracking and management is critical to provide the logistics and supply support necessary to accomplish this... (Section 2.2)	1 / 1.1.1 / 1.1.2 / 1.1.4 / 1.1.6 / 1.2.5 / 2.1.1 / 2.1.5 / 2.1.6 / 2.1.9 / 3.1.4 / 3.1.9 / 3.1.11 / 3.1.12 / 3.1.13 / 3.1.17 / 3.1.18 / 3.1.19 / 3.1.20 / 3.1.22 / 3.1.23 / 3.1.24 / 3.1.26 / 3.1.33 / 3.1.39 / 3.1.43 / 3.1.48
The FAA is challenged with maintaining and increasing the current capacity of the NAS with fewer human and financial resources. ...any disruption of logistics support could directly impact operational availability... (Section 2.3)	1.1.1 / 1.1.4 / 1.1.5 / 1.1.6 / 2.1.1 / 2.1.2 / 2.1.5 / 2.1.6 / 2.1.8 / 2.1.9 / 3.1.13 / 3.1.22 / 3.1.33 / 3.1.36 / 3.1.40 / 3.1.43 / 3.2.1 / 3.2.2 / 3.2.6

Need Statement MNS Location	iRD Section Number
ASCM is essential for effective security risk management for FAA's assets...and will contribute significantly to the agency's security risk management effort... (Section 2.4)	1.1.1 / 1.1.3 / 1.1.6 / 1.2.8 / 2.1.2 / 2.1.3 / 2.1.5 / 2.1.9 / 3.1.4 / 3.1.5 / 3.1.7 / 3.1.8 / 3.1.9 / 3.1.11 / 3.1.13 / 3.1.27 / 3.1.31 / 3.1.43 / 3.1.44 / 3.1.49
...three interrelated logistics needs have been identified as follows: (a) a corporate logistics strategy (b) cohesive management framework of logistics policy and processes (c) a comprehensive ASCM capability to support strategy, policy and processes (Section 3.1)	1 / 1.1.1 / 1.1.5 / 1.1.6 / 2.1.2 / 3.1.4
Operationally, from a CM and cost performance perspective, there is a need to maintain historical data including baseline and revision information on every line replaceable / repairable unit (LRU) in the FAA inventory for the life cycle of the equipment. (Section 3.2, paragraph a)	1 / 1.1.1 / 1.2.2 / 1.2.3 / 1.2.5 / 1.2.8 / 3.1.4 / 3.1.5 / 3.1.16 / 3.1.25 / 3.1.33 / 3.1.40 / 3.1.47 / 3.1.48 / 3.1.49
The NAS architecture projects a nearly 75% increase in total number of NAS systems/ equipment by the year 2006, notwithstanding the advent of GPS/WAAS...reflecting a doubling of NAS equipment between now and the year 2015. (Section 3.2, paragraph c)	1 / 1.1.5 / 1.2.5 / 1.2.8 / 2.1.2 / 2.1.5 / 2.1.6 / 2.1.8 / 2.1.10 / 3.1.13 / 3.1.15 / 3.1.33 / 3.1.35 / 3.1.40 / 3.1.47 / 3.1.48 / 3.2.6
Technologically, the application of client-server operations, bar-coding and electronic data interchange (EC/EDI) are proven best industry practices to reduce the cost of business transactions and to improve the productivity of the workforce. (Section 3.2, paragraph d)	1 / 1.1.1 / 1.1.4 / 1.1.6 / 2.1.2 / 3.1.4 / 3.1.5 / 3.1.36 / 3.1.37 / 3.1.39 / 3.1.40 / 3.2.4 / 3.2.5
The DOT is replacing its core financial system...acquisition, finance and asset management functions are tightly integrated from a business perspective, and there is an opportunity to fully integrate these business functions... (Section 3.2, paragraph e)	1.1.6 / 1.1.7 / 1.2.5 / 2.1.3 / 2.1.4 / 2.1.9 / 2.1.10 / 3.1.49 / 3.3.1
LIS ...is an on-line front end collection of older applications...without efficient integration with other applications...modernization will migrate all sub-systems to a client-server platform... (Section 4.0, paragraph a)	1 / 1.1.1 / 1.1.2 / 1.1.3 / 1.1.4 / 1.1.5 / 1.2.1 / 2.1.1 / 2.1.4 / 2.1.6 / 2.1.9 / 3.3.1
BCATS (automated data collection) intended to support NAS logistics operations through configuration management and asset tracking...where operationally efficient and cost effective to do so... (Section 4.0, paragraph b)	1 / 1.1.1 / 1.2.2 / 2.1.4 / 3.1.39 / 3.1.40 / 3.1.47
Additionally analysis identifies the interaction between the planned capabilities and their intended interface with other major agency investments and initiatives (i.e. NIMS, ACQUIRE) (Section 4.0, paragraph c)	1 / 1.1.6 / 1.1.7 / 1.2.2 / 1.2.5 / 2.1.1 / 2.1.3 / 3.3.1
Existing logistics information management systems are neither fully integrated	1 / 1.1.1 / 1.1.4 / 1.1.6 /

Need Statement MNS Location	iRD Section Number
nor EC/EDI compliant and have become very costly as they continue to reside within a mainframe environment (Section 5.0, paragraph a)	2.1.2 / 3.1.4 / 3.1.5 / 3.1.36 / 3.1.37 / 3.1.39 / 3.2.4
The FAA cannot accurately account for its real and personal property...agency struggles with the inability to present a clean and stable financial statement, which presents a serious material weakness for the agency... (Section 5.0, paragraph b)	1 / 1.1.1 / 1.1.7 / 1.2.3 / 1.2.4 / 1.2.5 / 1.2.7 / 2.1.3 / 2.1.9 / 2.1.10 3.1.5 / 3.1.6 / 3.1.7 / 3.1.8 / 3.1.9 / 3.1.25 / 3.1.31 / 3.1.48 / 3.1.49 / 3.3.1
The FAA does not have asset visibility... (Section 5.0, paragraph c)	1 / 1.1.1 / 1.1.4 / 1.1.6 / 1.2.1 / 1.2.2 / 1.2.5 / 2.1.3 / 2.1.10 / 3.1.4 / 3.1.13 / 3.1.33 / 3.1.42 / 3.1.48
Without ASCM...it will be difficult for the FAA to comply with existing public laws...OIG...GPRA (Section 3.0, paragraph e; Section 6.0, end of first paragraph; Section 7.1, paragraph c)	1 / 1.2.7 / 2.1.9 / 2.1.10 / 3.3.1
Current systems....are incapable of providing the automated support required for the FAA to attain a responsive and fully competitive business posture...(Section 6.1)	1 / 1.1.1 / 1.1.2 / 1.1.3 / 1.1.4 / 1.1.6 / 2.1.1 / 2.1.2 / 2.1.5 / 2.1.9 / 2.1.10 / 3.1.1 / 3.1.4 / 3.1.5 / 3.1.13 / 3.1.14 / 3.1.17 / 3.1.18 / 3.1.19 / 3.1.25 / 3.1.33 / 3.1.36 / 3.1.37 / 3.1.39 / 3.1.40 / 3.1.43 / 3.1.47 / 3.1.49 / 3.1.50 / 3.3.1
...it would be risky to assume that there are no potential impacts to air safety if the right part is not provided to a failed system or equipment... (Section 6.2)	1 / 1.1.1 / 1.1.2 / 1.2.2 / 1.2.8 / 2.1.5 / 2.1.6 / 2.1.7 / 2.1.8 / 2.1.9 / 3.1.4 / 3.1.5 / 3.1.22 / 3.1.24 / 3.1.26 / 3.1.32 / 3.1.33 / 3.1.43 / 3.1.47 / 3.1.48
The current capability to provide logistic support...will be compromised if the	1 / 1.1.1 / 1.1.2 / 1.1.3 /

Need Statement MNS Location	iRD Section Number
growth of the NAS continues as forecasted to the year 2015...the configuration management implications of a doubled NAS are profound... (Section 6.3)	1.1.4 / 1.2.2 / 2.1.2 / 2.1.3 / 2.1.5 / 2.1.6 / 2.1.9 / 2.1.10 / 3.1.2 / 3.1.3 / 3.1.4 / 3.1.5 / 3.1.11 / 3.1.13 / 3.1.15 / 3.1.16 / 3.1.17 / 3.1.18 / 3.1.19 / 3.1.22 / 3.1.33 / 3.1.39 / 3.1.40 / 3.1.42 / 3.1.43 / 3.1.47 / 3.2.6 / 3.3.1
...other emerging technologies and applications such as data warehousing, filtering, processing, forecasting and decision making should also be pursued to optimize workforce productivity and increase cost avoidance... (Section 6.4, third paragraph, last sentence)	1 / 1.1.1 / 1.1.6 / 1.1.7 / 1.2.5 / 1.2.6 / 2.1.3 / 2.1.4 / 2.1.5 / 2.1.6 / 2.1.7 / 3.1.13 / 3.1.17 / 3.1.19 / 3.1.20 / 3.1.24 / 3.1.25 / 3.1.26 / 3.1.36 / 3.1.37 / 3.1.38 / 3.1.39 / 3.1.40 / 3.1.42 / 3.1.45 / 3.2.5 / 3.2.6 / 3.3.1
Regulatory... (a CFO Act of 1990 (b Financial Integrity Act of 1982 (c GPRA of 1993 (Section 3.0; Section 7.1)	1 / 1.2.7 / 2.1.9 / 2.1.10 / 3.3.1

Appendix C Definitions

ACQUIRE - The Federal Aviation Administration's Automated Procurement System.

Asset - An tangible or intangible item that represent value to an organization and whose worth can be recorded on the organization's Balance Sheet as part of that organization's Corporate Financial Statement. Economic resources of an organization that are recognized and measured in conformity with Generally Accepted Accounting Principles (GAAP).

Asset Supply Chain Management (ASCM) - The process of managing assets throughout all phases of their operation and life within an organization to ensure that the organization can effectively and efficiency utilize its resources to meet operational and administrative reporting requirements.

Ai (Inherent Availability) = $\frac{\text{MTBF}}{\text{MTBF} + \text{MTTR}}$ (non-redundant) or $\frac{\text{MTBCF}}{\text{MTBCF} + \text{MTTR}}$ (redundant)

Cycle Inventory (CI) - The Cycle Inventory processes provide periodic verification of computer records with at actual stock levels at the FAALC Logistics Storage Facility bins.

FEDSTRIP / MILSTRIP - Requisitioning processes that provide access to and detailed billing for items stocked by the General Services Administration, Defense Logistics Agency or Department of Defense and obligates funds for payment.

Item Management - Provides inventory control and management for operating material and supplies for the NAS.

Lowest Replaceable Unit (LRU) - The lowest component, piece of equipment, or sub-system which can be removed and replaced from a failed operational asset in order to restore that asset's operational capabilities.

Personal Property - Assets to whose use personal accountability for use and loss is assigned, such as cellular telephones, personal computers, common tools, test equipment, and motor vehicles used for transportation such as cars and trucks.

Provide the Tools - Indicative of required man-machine interaction, includes hardware, software, and connectivity to appropriate data to perform the specific action(s).

Real Property - Land and all rights or interests in land, including buildings or structures (e.g. fences, telecommunication towers) attached to the land or other permanent improvements attached to the land, building or structure.

Work-in-Process (WIP) - (1) the accumulation of the dollar value(s) associated with F&E jobs in a Region; (2) a materiel classification code; or (3) a DAFIS General Ledger entry.

Appendix D Acronyms and Abbreviations

AF	Airway Facilities
AFM	Office of Financial Management
AFZ	Resources Management Program
Ai	Inherent Availability
AIT	Office of Information Technology
ANSI	American National Standards Institute
AOP	NAS Operations Program
AOS	Operational Support Program
ARA	Associate Administrator for Research and Acquisitions
ASCM	Asset Supply Chain Management
ASD	Office of System Architecture and Investment Analysis
ASU	Office of Acquisitions
AT	Air Traffic
ATS	Air Traffic Services
BCATS	Bar Coding and Asset Tracking System
BOM	Bill of Materials
CAEG	Computer Aided Engineering Graphics
CAP	Contractor Acquired Property
CAS	Commercially Available Software
CAS	Cost Accounting Standards
CCB	Configuration Control Board
CCD	Change Control Decision
CCS	Centralized Cataloging System
CDLS	Contractor Depot Logistics Support
CFO	Chief Financial Officer

CI	Cycle Inventory
CIMS	Corporate Information Management System
CMLS	Contractor Maintenance and Logistics Services
COTS	Commercial-off-the-Shelf
DAFIS	Departmental Accounting Financial Information System (DOT)
DELPHI	DOT Financial Accounting Information System (Replacing DAFIS)
DLA	Defense Logistics Agency
DLIS	Defense Logistics Information System
DOCCON	Document Control
DoD	Department of Defense
DOT	Department of Transportation
DT	Developmental Testing
EC	Electronic Commerce
EDI	Electronic Data Interchange
EMERS	Energy Management and Reporting System
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAALC	FAA Logistics Center
F&E	Facilities and Equipment
FHA	Functional Hazard Assessment
FIRS	Field Inventory Replenishment System
FMF	Facility Master File
FMFIA	Federal Managers Financial Integrity Act
FPMR	Federal Property Management Requirements
FRAN	Franchising
fRD	Final Requirements Document

FSI	Field Spares Inventory
GAO	Government Accounting Office
GFE	Government Furnished Equipment
GFP	Government Furnished Property
GIDEP	Government Industry Data Exchange Program
GSA	General Services Administration
HTML	Hyper-Text Mark-up Language
HVAC	Heating, Ventilation and Air Conditioning
ICP	Inventory Control Point
IEEE	Institute of Electrical and Electronic Engineers
IPT	Integrated Product Team
iRD	Initial Requirements Document
IRD	Interface Requirements Document
ISO	The International Organization for Standardization
ITV	In Transit Visibility
LCSS	Logistics Center Support System
LIMS	Lease Information Management System
LIS	Logistics Inventory System
LOB	Line of Business
LRU	Lowest Replaceable Unit
MDFM	Materiel Delivery Forecast Module
MF	Master File
MMAC	Mike Monroney Aeronautical Center
MMS	Maintenance Management System
MNS	Mission Need Statement
MRP	Materiel Requirements Planning

MTBF	Mean Time Between Failure
MTTR	Mean Time To Repair
MTTRs	Mean Time to Restore service
NAILS	National Airspace Integrated Logistics Support
NAILSMIS	NAS Integrated Logistics Support Management Information System
NAS	National Airspace System
NDI	Non-Developmental Item
NEPA	National Environmental Policy Act
NFPA	National Fire Prevention Association
NSN	National Stock Number
OCC	Operations Control Center
OIG	Office of the Inspector General
OM&S	Operating Materiel and Supplies
OMB	Office of Management and Budget
OSHA	Occupational Safety and Health Administration
OT	Operational Testing
PDF	Portable Document Format
PMMS	Project Materiel Management System
PMSRS	Project Materiel Shipping and Receiving System
PPIMS	Personal Property In-Use Management System
QA	Quality Assurance
QRO	Quality and Reliability Officer
REMS	Real Estate Management System
RETS	Real Estate Tracking System
RPMMS	Regional Project Materiel Management System
RPR	Real Property Records

RTP	Resource Tracking Program
SPME	Special Purpose Motorized Equipment
TAV	Total Asset Visibility
TIPT	Telecommunications Integrated Product Team
TDP	Technical Data Package
T&E	Test and Evaluation
WIP	Work-In-Process
Y2K	Year 2000

Appendix E References

Listed in order of occurrence.

FAA Strategic Plan	1998
FAA Administrator's Handbook	December 1996
Audit Outcome, Office of the Inspector General	R3-FA-7-004
Chief Financial Officers Act	
Federal Managers Financial Integrity Act (FMFIA)	
Federal Property Management Regulations (FPMR)	
Policy for Maintenance of the National Airspace System (NAS) Through the Year 2000	FAA Order 6000.30B
General Maintenance Handbook for Airway Facilities	FAA Order 6000.15B
National Airspace Integrated Logistics Support Policy	FAA Order 1800.58A
Year 2000 (Y2K) Repair Process and Standards Handbook	Version 2 (Green Book)
Development and Implementation of Remote Subsystems with the NAS	FAA Order 6090.1, Rev A
The International Organization for Standardization (ISO)	ISO 9002 Standard
National Environmental Policy Act (NEPA)	
Policies and Procedures for Considering Environmental Impacts	FAA Order 1050.1D
National Energy Conservation Policy Act	
Energy Efficiency And Water Conservation At Federal Facilities	Executive Order 12902
IEEE Recommended Practice for Grounding of Industrial and Commercial Power Systems	ANSI Standard 142-1991
IEEE Recommended Practice for Powering and Grounding Sensitive Electronic Equipment	ANSI Standard 1100-1992
Electrical Equipment, General Requirements	FAA Standard FAA-G-2100F, 019b and 020b
Electronic Works, Interior	FAA Standard FAA-C-1217F
Regulations for Area Control Facilities (ACF), Under The Floor Cabling	FAA Order 6650.9
Electronic Equipment, General Requirements, Appendix I, Applicability to Procurements for NDI/COTS Equipment	FAA Standard FAA-G-2100F
National Fire Prevention Association (NFPA), National Electrical Code	National Code 70
Telecommunications Asset Management	FAA Order 1830.6B
Occupational Safety and Health	FAA Order 3900.19A
Physical Security Management Program	FAA Order 1600.69
FAA Automated Information System Handbook	FAA Order 1600.54
Safeguarding Controls and Procedures for Classified National Security Information and Sensitive Unclassified Information	FAA Order 1600.2

Management of Federal Information Resources	OMB Circular A-130
Telecommunication and Information Systems Security Policy, Appendix 2, Threats to Information	FAA Order 1600.66
NAS Configuration Management	FAA Order 1800.8
Configuration Management	FAA Standard FAA-STD-021